

amplifiers each comprise an optical fiber amplifier.

Sub B2 7. (Amended) An optical switch comprising:

a first optical amplifier;

a second optical amplifier connected in cascade to said first optical amplifier; and

a first control circuit for outputting first and second control signals for switching a gain of said first and second optical amplifiers;

a third optical coupler inserted between said first and second optical amplifiers, said third optical coupler having an input-side first branch connected to an output of said first optical amplifier and an output-side branch connected to an input of said second optical amplifier; and

a third optical amplifier whose output is connected to an input-side second branch of said third optical coupler.

Sub B3 15. (Amended) The optical switch according to claim 1, wherein said first optical amplifier comprises an optical fiber amplifier, and said optical fiber amplifier comprises:

an erbium-doped optical fiber; and

a pumping source for generating a pumping light whose wavelength is in a 980 nm wavelength region to be inputted to said erbium-doped optical fiber.

21. (Amended) An optical switch for a wavelength-division multiplexed light which is obtained by wavelength-division multiplexing a plurality of light signals, said optical switch

comprising:

an optical wavelength demultiplexer for demultiplexing said wavelength-division multiplexed light into said plurality of light signals and outputting each of said plurality of light signals to each of a plurality of branches;

a plurality of first optical couplers, each being connected to each of said plurality of branches;

a plurality of first optical amplifiers, each having an input connected to an output of each of said plurality of first optical couplers;

a plurality of second optical couplers, each having an input-side first branch connected to the output of each of said plurality of first optical amplifiers;

a plurality of second optical amplifiers coupled to said second optical couplers to receive an input from said plurality of first optical amplifiers;

at least one first optical wavelength multiplexer whose input is connected to each of output-side branches of some of said plurality of second optical couplers;

at least one third optical amplifier whose input is connected to the output of said at least one first optical wavelength multiplexer; and

a control circuit for outputting first and second control signals for switching a gain of said first and second optical amplifiers.

23. (Amended) The optical switch according to claim 1, further comprising:

a signal light detector for detecting whether or not a signal light is inputted to said first optical amplifier and then outputting the result of the detection as a detect signal,

said first control circuit for providing said first and second optical amplifiers with control signals for shutting down said first and second optical amplifiers, when said detect signal is inputted to said second control circuit to indicate that said signal light is not inputted to said first optical amplifier.

24. (Amended) An optical network in which a plurality of optical nodes are connected through optical fiber transmission lines,

wherein each of said plurality of optical nodes comprises an optical switch as defined in claim 20.

Please add the following new claims:

-26. The optical switch according to claim 1, wherein said first optical amplifier switches a route of light.

27. The optical switch according to claim 20, wherein said first optical amplifier switches a route of said light signals.

28. The optical switch according to claim 21, wherein said first optical amplifier switches a route of said light signals.

29. The optical switch according to claim 1, further comprising: